

3745-1-32 Ohio river standards.

- (A) The Ohio river is designated warmwater habitat, public water supply, agricultural water supply, industrial water supply and bathing waters, and will meet the most stringent criteria set forth in, or derived in accordance with, this rule, rules 3745-1-01 to 3745-1-07 of the Administrative Code, and rules 3745-1-34 to 3745-1-36 of the Administrative Code.

Table 32-1. Water quality criteria for the Ohio river.

Chemical	Form ¹	Units ²	IMZM ³	OMZM ³	OMZA ³
Bacteria (fecal coliform)	T		--	b	b
Cyanide	free	µg/l	44	22	5.2
Dissolved oxygen ⁴	T	mg/l	--	4.0 ^c	5.0
Radionuclides	T		--	d	d
Temperature	--	°F	--	Table 32-3	Table 32-3

¹ T = total.² mg/l = milligrams per liter (parts per million); µg/l = micrograms per liter (parts per billion); °F = degrees fahrenheit.³ IMZM = inside mixing zone maximum; OMZM = outside mixing zone maximum; OMZA = outside mixing zone average.⁴ For dissolved oxygen, OMZM means outside mixing zone minimum at any time and OMZA means outside mixing zone minimum daily average.^a See rule 3745-1-07 of the Administrative Code.^b For the months of May to October, the maximum allowable level of fecal coliform bacteria shall not exceed two hundred per one hundred ml as a monthly geometric mean based on not less than five samples per month; nor exceed four hundred per one hundred ml in more than ten per cent of all samples taken during the month. For the months of May to October, measurements of Escherichia coli bacteria may be substituted for fecal coliform. Content shall not exceed one hundred thirty per one hundred ml as a monthly geometric mean, based on not less than five samples per month, nor exceed two hundred forty per one hundred ml in any sample. For the months of November to April, the maximum allowable level of fecal coliform bacteria shall not exceed two thousand per one hundred ml as a geometric mean based on not less than five samples per month.^c A minimum of 5.0 mg/l at any time shall be maintained during the April fifteen to June fifteen spawning season.^d Gross total alpha particle activity (including radium-226, but excluding radon and uranium) shall not exceed fifteen picocuries per liter (pci/l) and combined radium-226 and radium-228 shall not exceed four pci/l. The concentration of total gross beta particle activity shall not exceed fifty pci/l. The concentration of total strontium-90 shall not exceed eight pci/l.

Table 32-2. Ohio river water quality criteria for the protection of human health.
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Chemical	Form ¹	Units ²	Intakes	OMZA ³ Elsewhere
Acenaphthene	T	µg/l	1,200	1,200
Acrolein	T	µg/l	320	320
Acrylonitrile ⁵	T	µg/l	0.59	0.59
Alachlor	T	µg/l	2.0 ^a	--
Aldicarb ⁶	T	µg/l	7.0 ^a	--
Aldicarb sulfone ⁶	T	µg/l	7.0 ^a	--
Aldicarb sulfoxide ⁶	T	µg/l	7.0 ^a	--
Aldrin ⁵	T	µg/l	0.0013	0.0013
Anthracene	T	µg/l	9,600	9,600
Antimony	TR	µg/l	6.0 ^a	14
Arsenic	TR	µg/l	10 ^a	50
Asbestos	T	Mf/l	7.0 ^a	--
Atrazine	T	µg/l	3.0 ^a	--
Barium	TR	µg/l	2,000 ^a	--
Benzene ⁵	T	µg/l	5.0 ^a	12
Benzidine ⁵	T	µg/l	0.0012	0.0012
Benzo(a)anthracene ⁵	T	µg/l	0.044	0.044
Benzo(a)pyrene ⁵	T	µg/l	0.044	0.044
Benzo(b)fluoranthene ⁵	T	µg/l	0.044	0.044
Benzo(k)fluoranthene ⁵	T	µg/l	0.044	0.044
Beryllium	TR	µg/l	4.0 ^a	16
Bromate	T	µg/l	10 ^a	--
Bromoform ⁵	T	µg/l	43	43
Butylbenzyl phthalate	T	µg/l	3,000	3,000
Cadmium	TR	µg/l	5.0 ^a	--
Carbofuran	T	µg/l	40 ^a	--
Carbon tetrachloride ⁵	T	µg/l	2.5	2.5
Chloramine	T	µg/l	4,000 ^a	--
Chlordane ⁵	T	µg/l	0.021	0.021
Chlorides	T	mg/l	250 ^a	250
Chlorine	T	µg/l	4,000 ^a	--
Chlorine dioxide	T	µg/l	800 ^a	--
Chlorite	T	µg/l	1,000 ^a	--
Chloroacetic acid ⁷	T	µg/l	60 ^a	--
Chlorobenzene	T	µg/l	100 ^a	680
Chlorodibromomethane ⁵	T	µg/l	4.1	4.1

Table 32-2. Ohio river water quality criteria for the protection of human health.
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Chemical	Form ¹	Units ²	OMZA ³	
			Intakes	Elsewhere
Bis(2-Chloroethyl)ether ⁵	T	µg/l	0.31	0.31
Chloroform ⁵	T	µg/l	57	57
bis(2-Chloroisopropyl)ether	T	µg/l	1,400	1,400
bis(2-Chloromethyl)ether ⁵	T	µg/l	0.0013	0.0013
2-Chloronaphthalene	T	µg/l	1,700	1,700
2-Chlorophenol	T	µg/l	120	120
Chromium	TR	µg/l	100 ^a	--
Chrysene ⁵	T	µg/l	0.044	0.044
Copper	TR	µg/l	--	--
Cyanide	free	µg/l	200 ^a	700
2,4-D (2,4-Dichlorophenoxy-acetic acid)	T	µg/l	70 ^a	100
Dalapon	T	µg/l	200 ^a	--
4,4'-DDD ⁵	T	µg/l	0.0083	0.0083
4,4'-DDE ⁵	T	µg/l	0.0059	0.0059
4,4'-DDT ⁵	T	µg/l	0.0059	0.0059
Dibenzo(a,h)anthracene ⁵	T	µg/l	0.044	0.044
Dibromochloropropane	T	µg/l	0.2 ^a	--
Di-n-butyl phthalate	T	µg/l	2,700	2,700
Dichloroacetic acid ⁷	T	µg/l	60 ^a	--
1,2-Dichlorobenzene	T	µg/l	600 ^a	2,700
1,3-Dichlorobenzene	T	µg/l	400	400
1,4-Dichlorobenzene	T	µg/l	75 ^a	400
3,3'-Dichlorobenzidine ⁵	T	µg/l	0.40	0.40
Dichlorobromomethane ⁵	T	µg/l	5.6	5.6
1,2-Dichloroethane ⁵	T	µg/l	3.8	3.8
1,1-Dichloroethylene ⁵	T	µg/l	0.57	0.57
cis-1,2-Dichloroethylene	T	µg/l	70 ^a	--
trans-1,2-Dichloroethylene	T	µg/l	100 ^a	700
2,4-Dichlorophenol	T	µg/l	93	93
1,2-Dichloropropane ⁵	T	µg/l	5.0 ^a	5.2
1,3-Dichloropropene	T	µg/l	10	10
Dieldrin ⁵	T	µg/l	0.0014	0.0014
Di(2-ethylhexyl)adipate	T	µg/l	400 ^a	--
Diethyl phthalate	T	µg/l	23,000	23,000
2,4-Dimethylphenol	T	µg/l	540	540

Table 32-2. Ohio river water quality criteria for the protection of human health.
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Chemical	Form ¹	Units ²	OMZA ³	
			Intakes	Elsewhere
Dimethyl phthalate	T	µg/l	310,000	310,000
4,6-Dinitro-o-cresol (4,6-Dinitro-2-methylphenol)T	µg/l	13	13	
Dinitrophenols ⁴	T	µg/l	70	70
2,4-Dinitrotoluene ⁵	T	µg/l	1.1	1.1
Dinoseb	T	µg/l	7.0 ^a	--
1,2-Diphenylhydrazine ⁵	T	µg/l	0.40	0.40
Diquat	T	µg/l	20 ^a	--
Dissolved solids	T	mg/l	750/500 ^{a,b}	--
alpha-Endosulfan ⁸	T	µg/l	110	110
beta-Endosulfan ⁸	T	µg/l	110	110
Endosulfan sulfate ⁸	T	µg/l	110	110
Endothall	T	µg/l	100 ^a	--
Endrin ⁹	T	µg/l	0.76	0.76
Endrin aldehyde ⁹	T	µg/l	0.76	0.76
Ethylbenzene	T	µg/l	700 ^a	3,100
Ethylene dibromide (EDB)	T	µg/l	0.050 ^a	--
bis(2-Ethylhexyl)phthalate ⁵	T	µg/l	6.0 ^a	18
Fluoranthene	T	µg/l	300	300
Fluorene	T	µg/l	1,300	1,300
Fluoride	T	µg/l	1,000	1,000
Glyphosate	T	µg/l	700 ^a	--
Heptachlor ⁵	T	µg/l	0.0021	0.0021
Heptachlor epoxide ⁵	T	µg/l	0.0010	0.0010
Hexachlorobenzene ⁵	T	µg/l	0.0075	0.0075
Hexachlorobutadiene ⁵	T	µg/l	4.4	4.4
alpha-Hexachlorocyclohexane ⁵	T	µg/l	0.039	0.039
beta-Hexachlorocyclohexane ⁵	T	µg/l	0.14	0.14
gamma-Hexachlorocyclohexane (Lindane) ⁵	T	µg/l	0.19	0.19
Hexachlorocyclohexane- technical grade ⁵	T	µg/l	0.12	0.12
Hexachlorocyclopentadiene	T	µg/l	50 ^a	240
Hexachloroethane ⁵	T	µg/l	19	19
Indeno(1,2,3-c,d)pyrene ⁵	T	µg/l	0.044	0.044
Iron	S	µg/l	300 ^a	--

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Chemical	Form ¹	Units ²	Intakes	OMZA ³ Elsewhere
Isophorone ⁵	T	µg/l	360	360
Mercury	TR	µg/l	0.012	0.012
Methoxychlor	T	µg/l	40 ^a	100
Methyl bromide	T	µg/l	48	48
Methylene chloride ⁵	T	µg/l	5.0 ^a	47
Nickel	TR	µg/l	610	610
Nitrate-N + Nitrite-N	T	µg/l	10,000 ^a	10,000
Nitrite-N	T	µg/l	1,000 ^a	1,000
Nitrobenzene	T	µg/l	17	17
Nitrosoamines ⁵	T	µg/l	0.0080	0.0080
N-Nitrosodibutylamine ⁵	T	µg/l	0.064	0.064
N-Nitrosodiethylamine ⁵	T	µg/l	0.0080	0.0080
N-Nitrosodimethylamine ⁵	T	µg/l	0.0069	0.0069
N-Nitrosodi-n-propylamine ⁵	T	µg/l	0.050	0.050
N-Nitrosodiphenylamine ⁵	T	µg/l	50	50
N-Nitrosodipyrrolidine ⁵	T	µg/l	0.16	0.16
Oxamyl (Vydate)	T	µg/l	200 ^a	--
Pentachlorobenzene	T	µg/l	3.5	3.5
Pentachlorophenol ⁵	T	mg/l	1.0 ^a	82
Phenol	T	µg/l	21,000	21,000
Phenolics	T	µg/l	5.0	5.0
Picloram	T	µg/l	500 ^a	--
Polychlorinated biphenyls ⁵	T	µg/l	0.0017	0.0017
Pyrene	T	µg/l	960	960
Selenium	TR	µg/l	50 ^a	170
Silver	T	µg/l	50	50
Silvex (2,4,5-TP, 2-[2,4,5- Trichlorophenoxy]propionic acid)	T	µg/l	10	10
Simazine	T	µg/l	4.0 ^a	--
Styrene	T	µg/l	100 ^a	--
Sulfates	T	mg/l	250 ^a	250
1,2,4,5-Tetrachlorobenzene	T	µg/l	2.3	2.3
2,3,7,8-Tetrachlorodibenzo- p-dioxin ⁵	T	pg/l	0.13	0.13
1,1,2,2-Tetrachloroethane ⁵	T	µg/l	1.7	1.7

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Chemical	Form ¹	Units ²	Intakes	OMZA ³ Elsewhere
Tetrachloroethylene ⁵	T	µg/l	5.0 ^a	8.0
Thallium	TR	µg/l	1.7	1.7
Toluene	T	µg/l	1,000 ^a	6,800
Toxaphene ⁵	T	µg/l	0.0073	0.0073
Trichloroacetic acid ⁷	T	µg/l	60 ^a	--
1,2,4-Trichlorobenzene	T	µg/l	70 ^a	260
1,1,1-Trichloroethane	T	µg/l	200 ^a	--
1,1,2-Trichloroethane ⁵	T	µg/l	5.0 ^a	6.0
Trichloroethylene ⁵	T	µg/l	5.0 ^a	27
2,4,5-Trichlorophenol	T	µg/l	2,600	2,600
2,4,6-Trichlorophenol ⁵	T	µg/l	21	21
Vinyl chloride ⁵	T	µg/l	2.0 ^a	20
Xylenes	T	µg/l	10,000 ^a	--
Zinc	T	µg/l	9,100	9,100

¹ S = soluble; T = total; TR = total recoverable.

² mg/l = milligrams per liter (parts per million); µg/l = micrograms per liter (parts per billion); ng/l = nanograms per liter (parts per trillion); pg/l = picograms per liter (parts per quadrillion); Mf/l = million fibers per liter.

³ OMZA = outside mixing zone average. Criteria in the "Intakes" column apply within five hundred yards of drinking water intakes. Criteria in the "Elsewhere" column apply at all other locations.

⁴ The criteria for this chemical apply to the sum of all dinitrophenols.

⁵ Criteria for this chemical are based on a carcinogenic endpoint.

⁶ The criterion for this chemical applies to the sum of aldicarb, aldicarb sulfone and aldicarb sulfoxide.

⁷ The criterion for this chemical applies to the sum of chloroacetic acid, dichloroacetic acid and trichloroacetic acid.

⁸ The criteria for this chemical apply to the sum of alpha-endosulfan, beta-endosulfan and endosulfan sulfate.

⁹ The criteria for this chemical apply to the sum of endrin and endrin aldehyde.

^a This criterion is the maximum contaminant level (MCL) developed under the "Safe Drinking Water Act".

^b Equivalent 25°C specific conductance values are 1200 micromhos/cm as a maximum and 800 micromhos/cm as a thirty-day average.

Table 32-3. Ohio river temperature criteria.

Month/date	Period Average (°F)	Instantaneous Maximum (°F)
January 1-31	45	50
February 1-29	45	50
March 1-15	51	56
March 16-31	54	59
April 1-15	58	64
April 16-30	64	69
May 1-15	68	73
May 16-31	75	80
June 1-15	80	85
June 16-30	83	87
July 1-31	84	89
August 1-31	84	89
September 1-15	84	87
September 16-30	82	86
October 1-15	77	82
October 16-31	72	77
November 1-30	67	72
December 1-31	52	57

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